LUNTS, Leonid Borisovich.

The green construction; textbook for forestry technical colleges   Moskva   Gosbenbumizdat, 1952.   441 p. maps.   (53-19179)

SB466. R8LE5

1. Landscape gardening- Russia

SMIRNOV, V. YA., LUNTS, L. B.

Landscape Gardening - Moscow

Results and perspectives of landscaping in Moscow. Gor.Khoz. Mosk. 26 No. 7, 1952.

Monthly List of Russian Accessions, Library of Congress October 1952, Unclassified.

LUNTS, Leonid Borisovich

LUNTS, Leonid Borisovich. Planning municipal landscaping; textbook. Leningrad. Izd-vo
   Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 210 p. (55-19497)

SB466.R8L83

LUNTS, L. B.

Proekitrovanie gorodskikh zelenykh nasazhdenii (Planning municipal landscape architecture). Moskva, Izd-vo Min-stvo kommunal'nogo khoziaistva RSFSR, 1954. 212 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 6, Sep. 1954

FEDYNSKIY, V.I.;   RYABOV, V.N.;   LUNTS, L.B.

[Hygiene of a collective farm village] Gigiena kokhoznogo sela. Izd.
2-e izd.Moskva, Medgiz, 1954. 244 p.   (MLRA 8:4D)

LUNTS, L.B.; RODINA, A.S.

Plans for reconstructing the Gor'kii Central Park of Culture
and Rest. Gor.khoz.Mosk. 28 no.7:30-34 Jl '54.   (MLRA 7:7)
    (Moscow--Parks) (Parks--Moscow)

LUNTS, L.B., kandidat arkhitektury.

A book about parks ("Moscow's parks of culture and rest." V.V.Kholodkov-
skii. Reviewed by L.B.Lunts). Gor.khoz.Mosk.30 no.3:40 Mr '56.(MIRA 9:7)
(Moscow--Parks) (Kholodkovskiy, V.V.)

LUNTS L. B.

LUNTS, L., kandidat arkhitektury.

Landscape gardening of cities and villages ("Manual on housing and public services." Reviewed by L. Lunts). Zhil.-kom. khoz. 7 no.6:28-29 '57.   (MIRA 10:10)

     (Landscape gardening) (Municipal services)

LUNTS, L. kand.arkhitektury

Urgent problems in landscaping cities. Zhil.-kom.khoz.7 no.11:19-21
'57.   (MIRA 10:12)
                        (Landscape gardening)

LUNTS, L.B., kand. arkhitektury.

Let's improve the landscaping of Moscow. Gor. khoz. Mosk. 32 no.3:
8-10 Mr '58.   (MIRA 11:3)
                    (Moscow--Landscape gardening)

LUNTS, L.B., kand. arkhitektury.

Defective handbook ("City landscaping." Reviewed by L.B. Lunts).
Gor. khoz. Mosk. 32 no.5:39 My '58.   (MIRA 11:5)
                    (Landscape architecture)

LUNTS, L.B., kandidat arkhitektury

Economic and organizational aspects of planning greenbelts and p
parks. Gor.khoz.Mosk. 34 no.3:32-35 Mr '60.   (MIRA 13:8)
(Moscow--Landscape gardening)

DYUKER, Al'ber, prof.astronomii; GETLEND, Kennet; KHAFEZ, Mustafa
Mukhammed, doktor; KINDSEY, prof.; KHATANAKA, Takeo, astronom,
prof.; ZENGER, Eugen, prof., spetsialist v oblasti raketnoy
tekhniki (Federativnaya Respublika Germanii); LOVELL, B., prof.;
NEVIN, T., prof. (Irlandiya); KHADZHIOLOV, A., akademik
(Bolgariya); LUNTS, M., prof.; MATOVICH, V.; UEYL, L., doktor,
spetsialist po kosmologii (SShA); VAYD'YA, V.M., doktor; CHEMBERLEN, D.;
CHZHAO TSZYU-CHZHAN [Caho Chiu-chang]; NAGATA, I.

World scientists about the flight of A. Nikolaev and P. Popovich.
Av.i kosm. 45 no.10:31-33 '62.   (MIRA 15:10)

1. Direktor Frantsuzskogo obshchestva kibernetiki (for Dyuker).
2. Vitse-prezident Obshchestva mezhplanetnykh soobshcheniy,
Angliya (for Geltend). 3. General'nyy sekretar' nauchno-
issledovatel'skogo tsentra Ob"yedinennoy Arabskoy Respubliki
(for Khafez). 4. Chlen gosudarstvennogo komiteta po atomnoy
energii, Gana (for Lindsey). 5. Tokiyskiy universitet (for
Khatanaka). 6. Direktor radioastronomicheskoy observatorii
Dzhodrell-benk, Velikobritaniya (for Lovell).
                              (Continued on next card)

DYUKER, Al'ber, prof.astronomii——(continued) Card 2.

7. Predsedatel' astronavticheskogo obshchestva, Pol'sha (for
Lunts). 8. Sekretar' yugoslavskogo astronomicheskogo i raketnogo
obshchestva (for Matovich). 9. Zamestitel' direktora Natsional'noy
fizicheskoy laboratorii, Indiya (for Vavd'ya). 10. Predstavitel'
Kh'yustonskogo tsenta po sozdaniyu kosmicheskogo korablya
s ekipazhem, SShA (for Chemberlen). 11. Direktor Instituta
geofiziki Kitayskaya Narodnaya Respublika (for CHZHAO TSZYU-
CHZHAN). 12. Direktor Instituta radiovoln, Yaponiya (for Nagata).
                        (Space flight)

L 05223-67   EWP(e)   WH/WW
ACC NR: AP6027425

SOURCE CODE: PO/0095/66/014/006/0587/0595

AUTHOR: Wolpe, M. -- Vol'pe, M.; Lunc, M. -- Lunts, M.

ORG: Department of Plasma Physics and Technique, Institute of Nuclear Research, Warsaw-Swierk (Zaklad Fizyki i Techniki Plazmy, Instytut Badan Jadrowych)

TITLE: Analysis of the motion of a ring-core system compressed by detonation. I. Theoretical bases

SOURCE: Polska akademia nauk. Bulletin. Serie des sciences techniques, v. 14, no. 6, 1966, 587-595

TOPIC TAGS: detonation wave, compressive stress, pressure effect

ABSTRACT: The authors consider a new method for producing dynamic pressures of tens of millions of atmospheres. The method consists of compression by imploding a thick-walled pipe with a core having an outside diameter less than the inside diameter of the pipe. During the first compression phase before the inside diameter of the pipe equals that of the core, the work done by external pressure is transformed into kinetic energy. In the second phase the whole system is compressed and the accumu-lated kinetic energy is simultaneously transformed into internal energy. The specific case of a graphite core in an incompressible pipe is studied. It is assumed that both are nonviscous liquids. Expressions are derived for the radial motion of this

Card 1/2

L 05223-67

ACC NR: AP6027425 C

system under the effect of a constant external pressure p_0. The density of the pipe
material is assumed to be constant while that of the internal core depends only on
time (is independent of position). It is further assumed that pressure p_0 is so
great (of the order of pressures in a detonation wave front) that the motion of the
material in both elements conforms to the hydrodynamic laws for a nonviscous liquid.
The density, internal pressure and velocity of the pipe and core elements are deter-
mined. The results indicate that the assumptions are not realistic since velocity
is independent of time and the moment when motion ceases cannot be determined. The
solution indicates that the radius of the core may reach zero so that the whole mass
is concentrated at the axis. Actually the shockwave is reflected when it reaches
the axis and the following rarefaction wave may fracture the core material as is
frequently observed in experiments. The concept of homogeneous density must be given
up to bring the results into agreement with experimental data. Orig. art. has: 4
figures, 36 formulas.

SUB CODE: 20/ SUBM DATE: None

Card 2/2 gd

L 05222-67   EWP(o)   WH/WW

ACC NR: AP6027426   SOURCE CODE: PO/0095/66/014/006/0597/0601

AUTHOR: Wolpe, M. -- Vol'pe, M.; Lunc, M. -- Lunts, M.   *59*

ORG: Department of Plasma Physics and Technique, Institute of Nuclear Research, *B*
Warsaw-Swierk (Zaklad Fizyki i Techniki Plazmy, Instytut Badan Jadrowych)

TITLE: Analysis of the motion of a ring-core system compressed by detonation. II.
The case of a graphite core

SOURCE: Polska akademia nauk. Bulletin. Serie des sciences techniques, v. 14, no. 6,
1966, 597-601

TOPIC TAGS: superhigh pressure, detonation, graphite, SHELL STRUCTURE STABILITY

ABSTRACT: The authors consider implosion of a thick-
walled pipe surrounding a graphite core. The experi-
mental relationship between pressure and density is
shown in the diagram where $w=1/\rho$. This diagram gives
the approximate expressions $p = A_i - B_i w_i$ for
$w_i \geq w \geq w_{i+1}$.   Experimental values for the coeffi-
cients are given in Table I. No experimental data are
available for $w < w_5 = 0.21$. Formulas are derived for
determining the moment when the motion stops, i. e.

Table 1

i	A_i	B_i	w_i
1	0.963	2.14	0.450
2	4.775	16.0	0.275
3	0.6	0	0.261
4	5.4	21.33	0.225

Card 1/3

L 05222-67

ACC NR: AP6027426
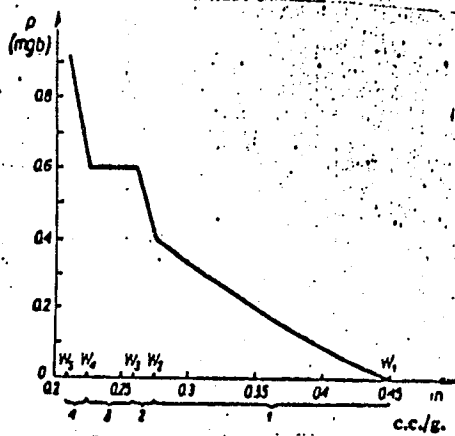
Table 2

ϱ in g./cm.^{3}, p — in megabars

	n	w_{min}	$\bar{c}_{max}$	p_{max}
$p_0 = 0.1$	1	0.362	2.759	0.187
	1.2	0.300	3.333	0.321
	1.5	0.255	3.922	0.600
	2.0	0.215	4.651	0.814
$p_0 = 0.2$	1.0	0.261	3.831	0.600
	1.2	0.227	4.393	0.600
	1.5	0.190	5.263	1.347
	2.0	0.155	6.451	2.094
$p_0 = 0.25$	1.0	0.232	4.301	0.600
	1.2	0.195	5.128	1.241
	1.5	0.170	5.882	1.774

when the derivative of the radius of the graphite core with respect to time is zero. It is shown that maximum pressure is independent of wall thickness. When internal pressure is held constant, maximum pressure increases with the difference

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L 05222-67

ACC NR: AP6027426 O

between the initial internal radius of the pipe and the radius of the core. Results
are shown in Table II where p_0 is the internal pressure and n is the ratio of the
cross sectional area of the volume enclosed by the pipe to the cross sectional area
of the core. Orig. art. has:. 4 figures, 4 tables, 7 formulas.

SUB CODE: 20/ SUBM DATE: None/ ORIG REF: 001/ OTH REF: 001 / SOV REF: 001

Card 3/3 ol

LUNTS, Nikolay Grigor'evich; KIRIN, Sergey Vasil'evich [deceased];
OSTROUHOV, G.A., redaktor; MIKHAYLOVA, V.V., tekhnicheskiy redaktor

[Brief handbook on metallurgical plant equipment lubrication] Kratkii
spravochnik po smazke oborudovaniia metallurgicheskiy zavodov. Moskva,
Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1954. 304 p.   (MIRA 8:3)
        (Lubrication and lubricants)

AYZENSHTEYN, M.S.; LUNTS, R.I.; NOVIKOVA, R.S.; SHAPIRO, V.S.

Combination of adenomatosis and tuberculosis of the lungs. Probl.
tub. 38 no.7:43-48 '60.   (MIRA 14:1)

1. Iz Moskovskoy klinicheskoy infektsionnoy bol'nitsy No.1
(glavnyy vrach - zasluzhennyy vrach RSFSR N.G. Zaleskver)
i Moskovskoy gorodskoy klinicheskoy tsentral'noy tuberkulez-
noy bol'nitsy (glavnyy vrach - zasluzhenny deyatel' nauki
prof. V.L. Eynis).
                (TUBERCULOSIS)   (LUNGS—TUMORS)

LINTS YA. L.

Izgib Klinnykh zashcherlennykh laotin. Prikl. atem. I mekh, 7 (1943), 167-178.

SO: Mathematics in the USSR, 1917-1947
        edited by Kursoh, A. G.
        Markushevich, A. I.
        Rashevskiy, P. K.
        Moscow-Lenigard, 1948

LUNTS, YA. L.

PA 39/49T59

39/49T59

USSR/Mathematics - Spherics   Jan/Feb 49
    Engineering
    Mechanics

"The Propagation of Spherical Waves in an
Elasticoplastic Medium," Ya. L. Lunts,
Leningrad, 25 pp

"Priklad Matemat i Mekh" Vol XIII, No 1

Studies propagation of spherical waves arising
in an infinite space containing an elastico-
plastic medium with application of a central-
symmetric load to the surface of a spherical
cavity cut out of this space. Considers the
case of active loading and determines the
distortion in elastic and plastically deformed sections
of the space. Finds propagation radius of the sharp
disruption of the plastic wave as a function of
initial pressure. Considers simplest problem on
propagation of unloading waves. Gives method for
approximate solution for regions of residual deforma-
tion. Submitted 12 Dec 48.

LUNTS, Ya.L., dotsent, kand.fiz.-mat.nauk

Inertia motion of a gyroscope hung in gimbals. Izv.vys.ucheb.
zav.; prib. no.3:25-28 '59.   (MIRA 13:4)

1. Leningradskaya Krasnoznamennaya voyenno-vozdushnaya inzhenornaya
akademiya im. A.F.Mozhayskogo, Rekomendovana kafedroy teoretiche-
skoy mekhaniki.
                    (Gyroscope)

67468
SOV/146-2-4-8/19

AUTHOR: <u>Lunts, Ya.L.</u>, Candidate of Physical and Mathematical
Sciences

TITLE: The Motion of an Unbalanced <u>Gyroscope</u>[9] Taking Into
Account the Frame Friction

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy.   Priborostroye-
iye, 1959, Nr 4, pp 63-72 (USSR)

ABSTRACT: In previous works on gyroscopes /Reference 3,5,6_7,
the motion in the case of various local out-of-balance
states was treated. The present article deals with the
mathematical determination of the motion of a complete-
ly unbalanced gyroscope when the static and dynamic
disequilibrium as well as the friction moments of the
wheel and rotor bearings are faily small. The dif-
ferential equations for the motion of a gyroscope
mounted in gimbals are given; the coordinate system
Card 1/3   of the latter is shown in a diagram (Figure 1).

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SOV/146-2-4-8/19

The Motion of an Unbalanced Gyroscope Taking Into Account the
Frame Friction

The kinetic and potential energies of the gyroscope
are determined, and the differential equations are
solved by means of the first and second approxima-
tions. The parameters of the following gyroscopes
are compared in a table: Siemens, Anschutz, "GPK-
48" gyroscope, and the "TOP" stabilizer of the zavod
"Aviapribor" ("Aviapribor" Plant). This article was
recommended by the Kafedra teoreticheskoy mekhaniki
(Chair of Theoretical Mechanics). There are 1 graph,
1 table, 1 diagram, and 8 references, 1 of which is
German, 1 English, and 6 Soviet.

ASSOCIATION: Leningradskskaya Krasnoznamennaya voyenno-vozdush-
naya inzhenernaya akademiya imeni A.F. Mozhayskogo
Card 2/3   (The Leningrad Red Banner Military Aircraft Engineer-

67468
SOV/146-2-4-8/19

The Motion of an Unbalanced Gyroscope Taking Into Account the
Frame Friction

ing Academy imeni A.F. Mozhayskiy).

SUBMITTED: May 30, 1959.

Card 3/3

/3.2520

AUTHOR: Lunts, Ya. L.

TITLE: The Motion of a Gyroscope in Cardanic Suspension Located on a Mobile Plane

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, 1960, Vol. 3, No. 4, pp. 37-42

TEXT: The author proceeds from the following assumptions: Oxyz (Fig. 1) is an inertial system, $Ox_1y_1z_1$ the coordinate system connected with the outer frame, where Oz_1 coincides with the axis of the outer frame and Oy_1 with the axis of rotation of the casing; the coordinate system $Ox_2y_2z_2$ is firmly connected with the casing, and Ox_2 is the axis of rotation of the rotor. The position of the rotor is then determined by the following angles: ψ_r (between the positive line of the Oy-axis and the nodal line OK); θ_r (between the Oz- and Oz_1-axis); ψ (angle of precession between Card 1/4

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The Motion of a Gyroscope in Cardanic   S/146/60/003/004/004/010
Suspension Located on a Mobile Plane   B004/B056

outer frame and OK); ϑ (between Ox_1 and Ox_2); φ (angle of natural rotation
of the rotor in the coordinate system $Ox_2y_2z_2$). Further, the time functions
$\psi_r(t)$ and $\vartheta_r(t)$ are given. For the projections p, q, r of the absolute
angular velocity of the outer frame onto the axes x_1, y_1, and z_1 the equa-
tions (1), for the projections ω_{x2}, ω_{y2}, and ω_{z2} of the absolute angular
velocity of the rotor onto the axes x_2, y_2, and z_2 the equations (2) are
written down and herefrom the following Lagrange equations are obtained:
$J_B(\dot{\vartheta} + \dot{q}) - J\Omega(r\cos\vartheta - p\sin\vartheta) - (J_d/2)[(p^2 - r^2)\sin 2\vartheta - 2pr\cos 2\vartheta] = 0$
(3); $J_c\dot{r} + (\dot{\vartheta} + q)(J\Omega\cos\vartheta - pJ_B) - (J_d/2)\dot{p}\sin 2\vartheta - J_d\dot{\vartheta}(r\sin 2\vartheta$
$+ p\cos 2\vartheta) + (J_e - J_{ext.y})pq - (J_d/2)qr\sin 2\vartheta = 0$ (4). The following
is defined: J, J_o = axial and equatorial moments of inertia of the rotor;
$J_{cas.x}$, $J_{cas.y}$, $J_{cas.z}$ = central moments of inertia of the casing;

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The Motion of a Gyroscope in Cardanic
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$J_{ext.x}$, $J_{ext.y}$, $J_{ext.z}$ = central moments of inertia of the outer frame.
$J_d = J_o + J_{ext.z} - J_{ext.x}$; $J_o = J_d \cos^2\vartheta + J_{cas.x} + J_{ext.z}$; $J_e = J_d \sin^2\vartheta$

$+ J_{cas.x} + J_{ext.x}$; $J_B = J_o + J_{cas.y}$. From equations (3) and (4) equation
(9) is obtained in first approximation and equations (11), (12), are ob-
tained in second approximation, by means of which the deviation of the
figure axis from the given direction in the inertial space may be calculat-
ed. A vibrating motion of the surface is assumed for the solution of
these equations:

$$\vartheta_r = \sum_{i=1}^{m} A_i \sin(\omega_i t + \varepsilon_i); \quad \psi_r = \sum_{i=1}^{m} B_i \sin(\nu_i t + \delta_i) \quad (13),$$ and by substitut-

ing these equations into (9) the system of equations (14) is obtained,
which shows that harmonic oscillations of the same frequencies as those
of the surface are induced onto the figure axis, and that, besides, nuta-
tion oscillations of the frequency k occur. From the equations (11), (12)
of second approximation, equations (17), (18) are obtained, which show

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The Motion of a Gyroscope in Cardanic
Suspension Located on a Mobile Plane

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that the oscillations of the nodal line caused by the function $\psi_r(t)$ exert
no influence upon the systematic deviation of the figure axis as long as
they are not in resonance with the frequency of the oscillations around the
nodal line, which are caused by the function $\vartheta_r(t)$. A paper by D. S.
Pel'por (Ref. 1) is mentioned by the author. The present paper was recom-
mended by the kafedra teoreticheskoy mekhaniki (Chair of Theoretical
Mechanics). There are 1 figure and 2 references: 1 Soviet and 1 German.

ASSOCIATION: Leningradskaya Krasnoznamennaya voyenno-vozdushnaya
                inzhenernaya akademiya im. A. F. Mozhayskogo (Leningrad
                "Red Banner" Military Aviation Engineers' Academy imeni
                A. F. Mozhayskiy)

SUBMITTED: March 12, 1960

Card 4/4

S/040/60/024/04/21/023
C 111/ C 333

AUTHOR: Lunts, Ya. L. (Leningrad)

TITLE: On the Instability of the Figure Axis of a Gyroscope

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol. 24, No. 4,
            pp. 763-765

TEXT: The author considers a gyroscope in Cardan suspension and with
the aid of the quadratures given by N. G. Chetayev (Ref.9) and V. N.
Skimel' (Ref.10) he proves rigorously that the figure axis is unstable,
i. e. he shows that for an arbitrarily small shock of the internal
frame the external frame performs a precession motion which leads the
rotor axis of the gyroscope away from its initial position.

There are 10 references: 8 Soviet, 1 German and 1 American.

SUBMITTED: February 20, 1960

Card 1/1

13.2521

AU..ORS: Budnyatskiy, I. M. and Lunts, Ya. L.

TITLE: On the motion of a gyroscope situated on a vibrating
             platform whose rotor is not accurately fixed on its
             shaft

TEXT: It is supposed that the center of gravity of the rotor, the
external and the internal frame are situated in the center of the
Cardan suspension and there is no friction in the bearings. The
angle which determines the inaccuracy of the position of the rotor
on its shaft is considered as a small quantity. The authors deduce
the equations of motion and determine successively the correction
terms of the first and second order in the solution; from the lat-
ter a formula for the deviation of the axis of the gyroscope with
respect to the angle φ is obtained which is stated to be different
from that obtained by D. M. Klimov (Ref. 5: O dvizhenii giroskopa

Card 1/2

On the motion of a ...

S/146/61/004/006/011/020
D235/D301

v kardanovom podvese s neaksial'no nazazhennym rotorom. Doklady AN SSSR, v. 124, no. 3, 1959). Two numerical examples are given. This article was recommended by the Academy. There are 3 figures and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Leningradskaya krasnoznamennaya voyenno-vozdushnaya inzhenernaya akademiya im. A. F. Mozhayskogo (Leningrad, Red Banner Military Aviation Engineering Academy im. A. F. Mozhayskiy)

SUBMITTED: March 10, 1961

Card 2/2

BUTENIN, N.V.; LUNTS, Ya.L.

Motion of a free gyroscope in case of a uniform rotation
of the base. Izv. vys. ucheb. zav.; prib. 6 no.5:75-83 '63.
(MIRA 16:11)

1. Leningradskaya voyenno-inzhenernaya krasnoznamennaya
akademiya imeni A.F. Mozhayskogo. Rekomendovana kafedroy
teoreticheskoy mekhaniki.

LUNTS, YA.L. (Leningrad)

"An estimate of the error of an approximate method used in applied gyroscopy".

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 Jan - 5 Feb 64.

BUTENIN, N.V.; LUNTS, Ya.L. (Leningrad)

"Nonlinear problems of the free gyroscope theory"

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 January - 5 February 1964

LUNTS, YA.L. (Leningrad)

"On deflections of a triaxial gyrostabilized platform due to oscillations of the base".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

LUNTS, Ya.L.

Systematic deflection of the platform of a triaxial gyroscopic
stabilizer caused by the vibration of the foundation. Izv. vys.
ucheb. zav.; prib. 7 no.4:103-107 '64   (MIRA 18:1)

1. Voyenno-inzhenernaya akademiya im. Mozhayskogo. Rekomendovana
kafedroy teoreticheskoy mekhaniki.

L 42475-65   EEO-2/EWT(d)/FSS-2/EEC(k)-2/EWG(v)/EED-2/EWA(c)   Pn-4/Po-4/Pe-5/
Pq-4/Pg-4/Pk-4/Pl-4   BC
ACCESSION NR: AP5006645   S/0146/65/008/001/0128/0134

AUTHOR: Budnyatskiy, I. M.; Lunts, Ya. L.

TITLE: Wandering of a dynamically unbalanced gyroscope mounted on a
vibrating base

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 1, 1965, 128-134

TOPIC TAGS: gyro, gyroscope, gyro wander

ABSTRACT: The motion of a two-gimbal gyroscope mounted on a vibrating base is
theoretically considered; the rotor is assumed to have a small dynamic unbalance;
the gyro case, an essential dynamic unbalance. Other assumptions are: the
centers of gravity of the rotor and frames coincide with the center of the gimbals
and no friction exists in the rotor and frame bearings. Equations describing the
gyro motion are set up, solved, and formulas suitable for calculating systematic
gyro wandering are developed. Orig art. has: 3 figures and 23 formulas.

Card 1/2

L 42475-65
ACCESSION NR: AP5006645

ASSOCIATION: Leningradskaya voyennaya inzhenernaya Krasnoznamennaya
akademiya im. A. F. Mozhayskogo (Leningrad Military Engineering Academy)

SUBMITTED: 11Dec63   ENCL: 00   SUB CODE: NG

NO REF SOV: 001   OTHER: 001

Card 2/2

L U522U-6/   BL0(N/-2/EWP(c)/EWT(d)/EWT(1)/EWT(m)/FSS-2   IJP(c)   JD

ACC NR: AP6028316   SOURCE CODE: UR/0040/66/030/004/0617/0624

AUTHOR: Lunts, Ya. L. (Leningrad); Smolitskiy, Kh. L. (Leningrad)

ORG: none

TITLE: A class of motions of conservative systems with one non-cyclic coordinate

SOURCE: Prikladnaya matematika i mekhanika, v. 30, no. 4, 1966, 617-624

TOPIC TAGS: gyroscope system, gyroscope stability, motion stability

ABSTRACT: Generalized motions analogous to precession and nutation motion in a gyro-
scopic system are studied in order to find the conditions for stability at all speeds
on a non-cyclic coordinate. A particular case of the necessary and sufficient condi-
tions described is that of the stability of a gyroscope with a vertical outer axis.
The instability of the system is determined by estimates on cyclical coordinates. The
vector of average deviation of the system from unperturbed precession during the time
of nearest nutation oscillation is defined. Several examples are offered to show the
application of the formulas for stability conditions to specific gyroscope systems.
Orig. art. has: 62 formulas.

SUB CODE: 12,20/   SUBM DATE: 18Jan66/   ORIG REF: 004

Card 1/1

YAKOVLEV, P.A., inzh.; LUNTS, Ye.B., inzh.

Building crossings on small rivers for the Stavropol - Moscow gas
pipeline. Stroi.truboprov. 3 no.12:20-23 D '58.   (MIRA 12:1)
            (Gas, Natural--Pipelines)

LUNTS, Ye.B.,inzh.

The GS soil mixer. Stroi. truboprov. 5 no.10:29 0'60. (MIRA 13:10)
(Mixing machinery)

LUNTS, Ye.B., inzh.

Improved method for attaching weights to and the coating of
pipes. Stroi.truboprov. 5 no.11:19-20 N '60.   (MIRA 13:11)
(Gas, Natural—Pipelines)

LUNTS, Ye.B. [Lunts, IU.B.] (Odessa); BUDNITSKIY, A.V. [Budnyts'kyi,
O.V.] (Odessa); ANATOL'YEV, A.V. [Anatol'iev, O.V.] (Cdessa)

Determining the frequencies of natural vibrations of the
columns of boring machines. Prykl. mekh. 9 no.4:426-435 '63.
(MIRA 16:8)

1. Odesskiy tekhnologicheskiy institut.

LUNTS, Ye.B., doktor tekhn. nauk, prof. [deceased]; DUDNITSKIY, A.V.,
kand. tekhn. nauk, dotsent; ANATOL'YEV, A.V. kand. tekhn. nauk,
dotsent

Approximate evaluation of the static and dynamic rigidity of
the bridges of diamond boring machines. Izv. vys. ucheb. zav.;
mashinostr. no.12:153-160 '64.   (MIRA 18:3)

1. Odesskiy tekhnologicheskiy institut.

LUNTS, Ye.B.

Introducing the MBM boring machine. Biul.tekh.-ekon.inform.
Gos.nauch.-issl.inst.nauch.i tekh.inform. no.8:5-6 Ag '65.
                                                    (MIRA 18:12)

LUNTS, Ye.B., inzh.; RUDIK, Ye.P., inzh.

MBM drilling machine. Stroi. i dor.mash. 10 no.12:5-7
D '65.   (MIRA 19:1)

LUNTSOV, D.

LUNTSOV, D.; SHABLOVSKIY, Ya.

We disseminate innovators' practices. Stroi. mat. 3 no.5:39 My '57.
(MIRA 10:6)

1. Redaktor gazety "Iskra vagranki". (for Luntsov).
(Moscow--Newspapers)

LUN'YAK, I.A. (Kuybyshevskaya oblast')

Paleozoic of the Samara Bend. Uch.zap.Kaz.un. 115 no.10:98-99 '55.
(MLRA 10:5)

(Samara Bend--Geology, Stratigraphic)

LUN'YAK, I.A.

Method for delineating key beds in the upper Carboniferous of
the Russian Platform in structural drilling. Trudy Giprovostoknefti
no.1:48-53 '58. (MIRA 13:9)
    (Russian Platform—Geology, Stratigraphic)

POZNER, Viktor Mikhaylovich; KIRINA, Tamara Il'inichna; PORFIR'YEV, Gleb
     Sergeyevich.   Uchastvovali: APRODOVA, A.A.; VISSARIONOVA, A.Ya;
     ZAKHAROVA, M.M.; KILIGINA, M.L; KOVYAZINA, N.M.; LUN'YAK, L.A.;
     MUSINA, K.K.; ORLOVA, I.N.; SAVINOVA, S.I.; TAZLOVA, Ye.N.;
     TERENT'YEVA, V.D.; FADEYEVA, M.I.; CHERNOVA, Ye.I.; SHEL'NOVA, A.K.
     TIKHIY, V.N.,red.; DAYEV, G.A.,ved.red.; GENNAD'YEVA, I.M.,tekhn.red.

     [Volga-Ural oil-bearing region; Carboniferous sediments] Volgo-Ural'-
     skaia neftenosnaia oblast'. Kamennougol'nye otlozheniia. Leningrad,
     Gos.nauchn.tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1957.
     287p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'-
     skii geologorazvedochnyi institut. Trudy no.112) (MIRA 11:12)
                    (Volga Valley--Geology, Stratigraphic)
               (Ural Mountain region--Geology, Stratigraphic)

IJNYAKIN, A.G.

Flame processing of metals. Gaz.prom. 5 no.6:28-32 Je '60.
(MIRA 13:6)

(Metal cutting) (Gas, Natural)

LOMIKADZE, I. S. (Engr)

Dissertation: "A Study of Straight-Line Impact in Application to Water Supply Systems."
Cand Tech Sci, Tbilisi Institute of Railroad Transport Engineers imeni V. I. Lenin,
1 Jul 54. (Zarya Vostoka, Tbilisi, 12 Jun 54)

SO: Sum 318, 23 Dec 1954

STROGANOV, Aleksandr Yefimovich; LUNYAKOV, Pavel Ivanovich; MIRONOV,
T.V., red.; PONOMAREVA, A.M., tekhn.red.

[In the land of morning freshness] V strane utrennei svezhesti.
Moskva, Izd-vo "Sovetskaia Rossiia," 1959. 85 p.   (MIRA 12:6)
(Korea--Description and travel)

LUNYAKOVA, T.T.

Growing of fungous amylase in the Serebryanye Prudy Distillery.
Spirt. prom. 29 no.6:33-34 '63.   (MIRA 16:10)

1. Serebryanoprudskiy spirtovoy zavod.
                        (Amylase)
    (Serebryanye Prudy—Distilling industries—By-products)

SHCHERBAKOV, A.A., podpolkovnik, letchik-ispytatel' pervogo klassa;
        LUNYAKOV, V.S., inzh.; SOLOV'YEV, V.V., inzh.; SHAPOVAL, Yu.G.,
        inzh.

Influence of a Vibration damper for pitching on the longitudinal
stability and controllability of planes. Vest.Vozd.Fl. no.7:59-63
Jl '61.   (MIRA 14:8)
        (Stability of airplanes, Longitudinal)
        (Airplanes, Military--Handling characteristics)

LUNYAKOVA, T.T.

Quality raw materials for the enterprises producing amylase.
Ferm. i spirt. prom. 30 no.1:35-36 '64.   (MIRA 17:11)

1. Serebryano-Prudskiy spirtovoy zavod.

LUN'YANITSA, V. G.

О ПРИРОДЕ СЕРА-
И АЗОТОРГАНИЧЕСКИХ СОЕДИНЕНИЯ НЕФТИ

Г. Д. Гальперн, Н. Н. Безингер, К. И. Морозова,
В. Г. Лукьяница

VIII Mendeleyev Congress for General and Applied Chemistry in
Section of Chemistry and Chemical Technology of Fuels,
publ. by Acad. Sci. USSR, Moscow 1959

Abstracts of reports scheduled to be presented at above mentioned congress,
Moscow, 13 March 1959.

LUNYATSKAS, A.M. [Luneckas, A.]; PROKOPCHIK, A.Yu. [Prokopcikas, A.]

Formation of anion compounds of cobalt (III) and nickel (III)
in the catalytic decomposition of barium hypohalides and
halides. Trudy AN Lit. SSR. Ser. B no.2:45-59 '62.

(MIRA 18:3)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

LUNYATSKAS, A.M. [Lunockas, A.]

Iodometric determination of cobalt. Trudy AN Lit. SSR Ser. B
no.3:39-45 '62.   (MIRA 18:3)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

ACCESSION NR: AP4017962   S/0236/63/000/004/0003/0010

AUTHOR: Lunyatskas (Luneckas), A.M.

TITLE: Cobalt and nickel interaction with certain oxidizers

SOURCE: AN LitSSR. Trudy*. Seriya B, no.4, 1963, 3-10

TOPIC TAGS: cobalt separation, nickel separation, cobalt oxidation, nickel oxidation, cobalt, nickel oxidizing separation, chlorite oxidizer, peroxide oxidizer

ABSTRACT: The purpose of the study is to find a method of cobalt-nickel separation utilizing their different catalytic behavior in decomposing sodium hypochlorite, sodium chlorite and hydrogen peroxide in an acidic medium and using a selective adjustment of the pH of the solution. Weighed samples of $CoSO_4$ and $NiSO_4$ were dissolved in precisely measured volumes of water, adjusted to the desired pH by the addition of H_2SO_4 or NaOH and a solution of an oxidizer (NaClO, $NaClO_2$, H_2O_2) was added in excess. The reaction mass was brought to boiling and immediately passed through a glass filter. Hydroxides were washed with a hot solution of the same pH as was the filtrate.

Card 1/2

ACCESSION NR: AP4017962

To determine the rate of oxidation, the washed precipitate was care-
fully stirred into a 10% solution of KI, the mixture acidified with
2 N H_2SO_4 and the iodine precipitate titrated with sodium thiosulphate.
It was found that the separation of nickel from cobalt at 90-100C
using sodium hypochlorite as oxidizer is achieved at pH $<$ 1, and using
sodium chlorite   at a pH of from 2.5 to 3.5. Only hydrogen peroxide
can be used for quantitative determination of cobalt. There are data
on the properties of cobalt and nickel compounds of higher valency
which can be used for detailed studies of catalytic decomposition of
chlorites, hypochlorites and hydrogen peroxide. Orig. art. has 3
figures, 1 formula, no tables.

ASSOCIATION: Institut khimii i khimicheskoy tekhnologii AN Litovskoy
SSR (Institue of Chemistry and Chemical Technology, AN Lithuanian SSR)
SUBMITTED: 14May63   DATE ACQ: 13Mar64   ENCL: 00

SUB CODE: OH   /   NR REF SOV: 012   OTHER: 006

Card 2/2

LUNYATSKAS, A.M. [Lameckas, A.]; VALYANTUKYAVICHYUTE, L.P. [Valentukeviciute, L.]

Catalytic decomposition of hypophosphites. Report No.1: Decomposition in the presence of hydroxylions. Trudy AN Lit. SSR. Ser. B. no.1:135-141 '64   (MIRA 17:7)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

LUNYATSKAS, A.M. [Luneckas, A.]

Catalytic decomposition of hypophosphites. Report No. 2: Decomposition in the presence of nickel and cobalt. Trudy AN Lit. SSR. Ser. B no.1:143-149 '62.   (MIRA 17:7)

1. Institut khimii i khimicheskoy tekhnologii an litovskoy SSR.

LUNYATSKAS, A.M. [Luneckas, A.]

Catalytic decomposition of hypophosphites. Part 3: Effect of catalytically inactive additions. Trudy AN Lit. SSR. Ser. B no.3:73-80 '64.   (MIRA 18:5)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

LUNYATSKAS, A.M. [Luneckas, A.]

Electrolytic oxidation of phosphites. Trudy AN Lit.SSR. Ser. B
no.3:3-8 '65.   (MIRA 19:1)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.
Submitted March 26, 1965.

LUNYATSKAS, A.M. [Luneckas, A.]

Nickel and cobalt phosphites. Trudy AN Lit. SSR. Ser. B.
no. 4:97-103 '65   (MIRA 19:2)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy
SSR. Submitted June 10, 1965.

NORKUS, P.K.; LUNYATSKAS, A.M. [Luneckas, A.]; TSARANKUTE, S.I. [Curankute, S.]

Rapid iodometric determination of phosphite. Zhur. anal. khim.
20 no.6:753-755 '65.
(MIRA 18:7)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR,
Vil'nyus.

LUNZER L., BALINT P., FEKETE A. and LASZLO K.

Physiol. Inst., med. Univ., Budapest. *Über die Inulinspeicherung der Niere. Inulin storage by the kidney ACTA PHYSIOL. ACAD. SCIENT. HUNG. (Budapest) 1954, 5/suppl. (67-68)

LUPA, A. AND OTHERS.

Experimental study on ileocystoplasty.

P. 1151 (Academia Republicii Populare Romine, Comunicarile. Vol. 6, no. 9, Sept. 1956
Bucuresti, Rumania)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 2
February 1958

ŁUPA, Herbert, mgr inz.

Drainage by tubes made of plastics. Gosp wodna 24 no. 6:
208-210 Je '64.

1. Department of Soil Improvement, Technical University, Szczecin.

LUPAC, Vaclav

USSR A.

15622. Pouring of Heavy Steel Castings in Chemically Hardened Sand Molds. Odlévání těžkých ocelových odlitků do forem z písku CT. (Czech.) Václav Lupač and Karel Plohar. Slévárenství, v. 3, no. 6, June 1955, p. 161-163.

Production experience; advantages of CO₂ hardening process.
Graphs, photographs.

LUPAC, V.

Exothermic risers and their practical use.

P. 168, (Slevarenstvi) Vol. 5, no. 6, June 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

GRECHANYUK, N.M., podpolkovnik; DMITRIYEV, V.I., kand.istor.nauk, kapitan
2 ranga; KRINITSYN, F.S., kand.istor.nauk, polkovnik; CHERNOV,
Yu.I., kapitan 3 ranga; LUPACH, V.S., red.; KONOVALOVA, Ye.K.,
tekhn.red.

[The Baltic Fleet; a historical sketch] Baltiiskii flot;
istoricheskii ocherk. Moskva, Voen.izd-vo M-va obor.SSSR,
1960. 373 p.   (MIRA 14:2)
          (Russia--Navy)

BESKROVNYY, L.G., doktor istor.nauk; LYUSHKOVSKIY, M.V.; SOT, R.Sh.;
LUPACH, V.S., red.; SLEPTSOVA, Ye.N., tekhn.red.

[Russian military theory in the 19th and the beginning of the
20th century] Russkaia voenno-teoreticheskaia mysl' XIX i
nachala XX vekov. Moskva, Voen.izd-vo M-va obor.SSSR, 1960.
757 p.   (MIRA 14:4)
        (Military art and science)

MAKOVSKIY, Aleksandr Alekseyevich; RADCHENKO, Boris Mikhaylovich;
     LUPACH,V.S., red.; BUKOVSKAYA,N.A., tekhn.red.

[The Red Banner Caspian Fleet; on historical account] Kas-
piiskaia Krasnoznamennaia; istoricheskii ocherk. Moskva,
Voen.izd-vo M-va obor.SSSR, 1961. 191 p.

(MIRA 14:5)

(Russia--Navy)

LOKTIONOV, Ivan Il'ich, kand.voyenno-morskikh nauk, dotsent, kapitan
1 ranga; LUPACH, V.S., red.; ANIKINA, R.F., tekhn.red.

[Danube flotilla in the Great Patriotic War, 1941-1945]
Dunaiskaia flotiliia v Velikoi Otechestvennoi voine, 1941-
1945 gg. Mockva, Voen.izd-vo M-va obor.SSSR, 1962. 317 p.
                                                    (MIRA 15:4)

    (World War, 1939-1945--Naval operations)

KRINITSYN, Filipp Stepanovich;LUPACH, V.S., red.;MASLOVA, N.Ya.,
       tekhn. red.

[The Battle of Cesme]Chesmenskoe srazhenie. Moskva, Voenizdat,
1962. 61 p.   (MIRA 16:3)
              (Cesme, Battle of, 1770)

SHERR, Sergey Aleksandrovich; LUPACH, V.S., red.; KOKINA, N.N.,
tekhn. red.

[Ships for the ocean depths] Korabli morskikh glubin.
Izd.3., ispr. i dop. Moskva, Voenizdat, 1964. 325 p.
(MIRA 17:2)

GODLEVSKIY, G.F.; GRECHANYUK, N.M.; KONONENKO, V.M.; LUPACH, V.S.,
        red.

        [Combat cruises; the squadron of the Black Sea Fleet in
        the Great Patriotic War] Pokhody boevye; eskadra Cherno-
        morskogo flota v Velikoi Otechestvennoi voine. Moskva,
        Voenizdat, 1966. 241 p.   (MIRA 19:1)

RODIONOVA, Ye.G.; BEKKER, Z.E.; LUPACH, Ye.I.

> Producing strains, antifungal activity, control methods, and
> deep fermentation of trichotecin. Antibiotiki 5 no. 5:25-29
> S-O '60.   (MIRA 13:10)

> 1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
>   (ANTIBIOTICS)

LUPACHEV, V.F.

Effect of royal jelly preparation on the vessels of frog extre-
mities and liver under conditions of increased tonus of their
walls. Inform.biulo mat.moloch. no.3:10-15 '62.

(MIRA 16:2)

1. Kafedra gospital'noy terapii (zav. prof.N.A. Troitskiy) i
kafedra farmakologii (zav. dotsent A.A. Nikulin) Ryazanskogo
meditsinskogo instituta imeni akademika I.P. Pavlova.
    (ROYAL JELLY—PHYSIOLOGICAL EFFECT) (BLOOD VESSELS)

LUPACHEV, V.F.

Pharmacology of apilac. Farmakol. toksik. 26 no.3:333-338
My-Je'63   (MIRA 17:2)

1. Kafedra farmakologii (zav. - dotsent A.A. Nikulin) i ka-
fedra gospital'noy terapii (zav. - prof. N.A. Troitskiy)
Ryazanskogo meditsinskogo instituta imeni I.P.Pavlova.

LUPACHEV, V.F.

Effect of various doses of royal jelly preparation on white
mice. Inform.biul.o mat.moloch. no.3:20-26 '62.

(MIRA 16:2)

1. Kafedra gospital'noy terpaii (zav. prof. N.A. Troitskiy)
kafedra farmakologii (zav. dotsent A.A. Nikulin; i kafedra
patologicheskoy anatomii (zav. prof. V.K. Beletskiy) Ryazanskogo
meditsinskogo instituta imeni akademika I.P. Pavlova.
      (ROYAL JELLY—PHYSIOLOCTCAL EFFECT) (LABORATORY ANIMALS)

NIZOV, A.A.; LUPACHEV, V.F.

Dynamics of the electrophoretic blood protein formula during
treatment with royal jelly preparation. Inform.biul.o mat.moloch.
no.3:86-89 '62.   (MIRA 16:2)

1. Klinika gospital'noy terapii (zav. prof. N.A. Troitskiy)
Ryazanskogo meditsinskogo instituta imeni akademika I.P.
Pavlova.
          (ROYAL JELLY—THERAPEUTIC USE) (BLOOD PROTEINS)
                  (PAPER ELECTROPHORESIS)

LUPACHEV, V.F.

Some experimental data and clinical observations on the effect of apilacum. Nauch. trudy Riaz. med. inst. 18 no.2:138-148 '64.

(MIRA 19:1)

1. Kafedra gospital'noy terapii (zav. - prof. N.A. Troitskiy) i kafedra farmakologii (zav. - dotsent A.A. Nikulin) Ryazanskogc meditsinskogo instituta.

L 44434-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AP5017903 UR/0051/65/019/001/0132/0132

621.375.9:53

AUTHOR: Bakumenko, V. L.; Kozina, G. S.; Kostinskaya, T. A.; Lupachev, Ye. P.; Rvacheva, Ye. S.

TITLE: Stimulated emission of praseodymium in calcium tungstate

SOURCE: Optika i spektroskopiya, v. 19, no. 1, 1965, 132, and both sides of insert facing p. 132

TOPIC TAGS: stimulated emission, praseodymium, calcium compound, solid state laser

ABSTRACT: The authors report that laser oscillation has been obtained in calcium tungstate crystals grown by the Czochralski method and activated with trivalent praseodymium ($CaWO_4$-Pr^{3+}). The oscillations were studied in cylindrical samples about 5 mm in diameter and 40 mm long, with plane-parallel silvered ends. The transmissivity of the semitransparent end was 0.5%. The pump source was a pulsed xenon lamp with maximum flash intensity 6 kJ). The stimulated emission was observed at a wavelength of 1.047 μ, corresponding to the $^1G_4 \rightarrow {}^3H_4$ transition and the temperature of liquid nitrogen. The threshold pump energy for this line was 12.8 J. The crystal output emission was recorded with a photomultiplier (FEU-28) feeding a pulse oscilloscope (OK-17M). The oscillograms exhibit a spike-like structure, with a peak energy of 30 W corresponding to the maximum spike amplitude. The emitted energy was 2 mJ. Orig. art. has: 3 figures.

Card 1/2

I. 4434-66

ACC NR: AP5017903

ASSOCIATION: None

SUBMITTED: 29Apr64   ENCL: 00   SUB CODE: OP, EC

NR REF SOV: 000   OTHER: 001

Card   2/2

LUPACHEVA, Anastasiya Ivanovna; MESHKOVSKAYA, M., red.; SHLYK, M.,
tekhn. red.

[Everyone chooses his own path] Kazhdyi vybiraet sebe dorogu.
Moskva, Mosk. rabochii, 1961. 26 p.   (MIRA 14:9)

1. Brigada stanochnikov Lyuberetskogo zavoda sel'skokhozyaystven-
nykh mashin im. Ukhtomskogo (for Lupacheva).
     (Lyubertsy—Agricultural machinery industry)
               (Socialist competition)

LUPAKOV, I. A.

KATSMAN, I. A., Inzh. i LUPAKOV, I. A., Inzh., SHAPIRO, A. Ya., Inzh.

Inzhenery Vsesoyuznaya Kontora Tipovogo Proyektirovaniya i Tekhnicheskikh
Issledovany (KTIS) Mintyazhstroya.

Otopleniye 1 Ventilyatsiya Kohsovogo Bloka Koksokhimicheskikh Zavodov
(instruktsiya Proyektirovaniyu)   Page 54

SO: Collection of Annotations of Scientific Research Work on Construction, completed

in 1950.   Moscow, 1951

BAGURZOV, N.P., arkhitektor; LANDAU, L.G., arkhitektor; KATSMAN, D.S., inzh.; LUPAKOV, I.A., inzh.

Range for using industrial buildings without montors. Prom. stroi. 40 no.4:21-27 '62.   (MIRA 15:5)
                        (Factories—Design and construction)

LUPAKOV, Z S

High-temperature gas carburizing of steel. G. M. Shuvalov, Z. S. Lupakov, and I. A. Fel'dman. *Metalloved. i Obrabotka Metallov* 1956, No. 6, 48-52(Brutcher translation No. 3806).—A pot-type, muffle-less elec. furnace 700 mm. in diam. and 1000 mm. deep was used with ligroine as the carburizer. The av. gas compn. during carburizing at 930, 970, 1000, and 1050° were, resp.: CO_2, 0.7, 0.6, 0.5, 0.3%; O_2, 0.5, 0.3, 0.2, 0.0; CO, 34.0, 34.6, 36.2, 40.2; H_2, 45.0, 46.0, 47.5, 48.0; CH_4, 2.9, 2.0, 1.3, 0.0; balance N. Six types of steel were studied and they behaved similarly. The total depth of case was plotted against time of carburizing for times of 1-8 hrs. and for 4 temps. After 1 and 8 hrs. the depths were: 930°, 0.5, 1.7 mm.; 970°, 0.7, 2.0; 1000°, 0.8, 2.4; 1050°, 1.0, 2.8. C-penetration curves were detd. for specimens in which a depth of 1.8 mm. had been produced at 930° and at 1050°. The surface C content was about 1.8% in the 930° specimen and only 1.6 in the 1050° specimen. The carbon gradient was steeper in the 930° specimen. These differences were due to a slower rate of surface absorption relative to diffusion rate at the higher temp. The same grain size was obtained in both the case and the core of specimens carburized to a depth of 2.3 mm. at temps. of 930-1050°. The mech. properties were also the same. A. G. Guy

S/129/61/000/011/006/010
E193/E383

AUTHORS: Lupakov, I.S., Candidate of Technical Sciences and
             Stolyarova, A.S., Engineer

TITLE: Relaxation stability of cylindrical helical springs
             of steel 1Х18Н9Т (1Kh18N9T)

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
             no. 11, 1961, 34 - 36

TEXT: Owing to its high resistance to corrosion in water or
water-steam mixtures, the steel 1Kh18N9T might be a more suitable
material for springs operating at high temperatures than the
steels 3Х13 (3Kh13) or 4Х13 (4Kh13) normally used for this
purpose. The object of the present investigation was to study
the effect of high service temperatures on the characteristics
of springs made of this steel. Hot-rolled rods, 8 and 10 mm in
diameter, were cold-drawn to 4.5 mm diameter wire, whose UTS was
145 and 160 kg/mm^2, respectively. These wires were coiled into
cylindrical springs, 29 mm internal diameter, 59 mm high, with
a pitch of 10 mm. After coiling, the springs were held at 450 °C
for 30 min, cooled to room temperature, compressed to complete
Card 1/5

Relaxation stability of S/129/61/000/011/006/010
E193/E383

closure and held for 24 hours at room temperature. After
preliminary relaxation, the springs were compressed again in jigs
and held at 450 °C for 30 min. After this treatment the load
required to produce a certain predetermined compression was
measured. The springs were then compressed in jigs to a height
of 32 mm, placed in a furnace at 385 - 420 or 450 °C and held
at the temperature for 1 to 2 000 hours. The springs were
removed from the furnace at regular intervals and the load
required to produce compression equal to that obtained in the
initial test was determined again. Some of the results are
reproduced graphically in a figure, where the compression stress
(σ, kg/mm^2) is plotted against the duration (hours) of treatment
at 385, 420 and 450 °C (graphs a, 6 and B, respectively),
Curves 1 and 2 relating to springs made from wire obtained,
respectively, from 8 and 10 mm rods. Since there was a possi-
bility that these results had been affected by repeated loading
and unloading of the springs during the treatment, the tests
were repeated on specimens which, after being held at the test
temperature for a given time, were tested and not used again.
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Relaxation stability of S/129/61/000/011/006/010
E193/E383

No difference in the relaxation stability was observed. The effect of time and temperature on hardness of the steel 1Kh18N9T is illustrated in Table 2. It is concluded that springs of hardened steel 1Kh18N9T have sufficient relaxation stability at temperatures up to 585 $^{\circ}$C, the decrease in σ after 2 500 hours at this temperature amounting to 44.5%, the corresponding decrease at 450 $^{\circ}$C being 88.5% after 750 hours only. The relaxation stability is not affected by the degree of work-hardening during drawing of the spring wire. A slight increase in hardness of the spring material during the first 100 hours of treatment was attributed to the effect of ageing. Engineer D.A. Teymer of TsNIIChM is mentioned in the article. There are 1 figure, 2 tables and 2 Soviet-bloc references.

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18.8200 also 2807

S/032/61/027/005/009/017
B130/B220

AUTHORS: Lupakov, I.S. and Kuz'michev, Yu. S.

TITLE: Methods for testing the fatigue strength of heat resistant
            ropes at elevated temperature

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 5, 1961, 589 - 591

TEXT: A method and a device of simple design are described, which permit
an estimate of the fatigue strength of a steel rope till it is destroyed
partly or completely, based on the number of bendings over a pulley, for
a rated stress and at elevated temperature. In these tests, the number
of bendings is recorded by a counter and the temperature of the rope is
measured. These tests enable not only the statement of the bendings, but
also the investigation of several further factors having a negative in-
fluence upon the fatigue strength of the rope, such as oxidation. A rope
was manufactured and tested for 10,000 hours at a temperature of 700°C.
A load being continuously in a shaft of 700°C is fixed to one end of the
rope. The other end of the rope is fixed on a drum. The ropes were manu-
factured of pure molybdenum-chrome-nickel-tungsten-steel of the type ЭИ726
(EI726) and of an alloy on nickel basis ЭИ 893 (EI893) in the Tsentral'nyy
Card 1/4

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Methods for testing the...

nauchno-issledovatel'skiy Institut chernoy metallurgii (Central Scientific
Research Institute of Iron Metallurgy). The device (Fig. 1) consists of a
frame 1 on which a motor 2 and a reductor 3 with pulley 4 are mounted. A
returning rotary motion is transmitted from the pulley of the reductor to
the drum 6 by means of a push rod 5. The rope 7 passes an oven, a pulley
8, and a second oven. A load is fixed to the other end of the rope. The
heating of the rope is effected by 2 tube furnaces 10 situated in the
neighborhood of the pulley 8. The temperature of the oven is measured by
a chromel-alumel thermocouple and controlled by means of an МРШПр-54
(MRShchPr-54) instrument. The number of bendings of the rope over the
pulley is recorded by a СБ-1М/100 (SB-1M/100) counter. Since that part
of the rope which runs over the pulley is not always in the oven, a differ-
ence developes between the temperature of the oven and that of this point.
The temperature of the rope next to the pulley is measured by means of a
thermocouple and via a vibrator recorded by a ЭО-4 (EO-4) oscilloscope
in a special test under small load, in order to ascertain this difference.
There are 4 figures.

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3468 2
S/129/62/000/002/011/014
E193/E383

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AUTHORS: Lupakov, I.S., Candidate of Technical Sciences
and Voyeykov, V.P., Engineer

TITLE: Application of steel ЭИ692 (EI692) for service at
800 °C

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
no. 2, 1962, 49 - 51

TEXT: The object of the present investigation was to check
whether the steel EI692 (0.05% C, 0.7% Mn, 0.19% Si, 15.29% Cr,
36.5% Ni, 2.5% W, 2.49% Mo, 1.48% Ti, 0.008% S, 0.023% P,
0.02% B (calculated), 0.025% Ce (calculated), developed originally
for service at 600 - 750 °C, could be used at 800 °C. To this
end, various properties of this steel were studied on specimens
which, after a preliminary austenizing treatment (air-cooling
from 900 °C) followed by 10 hours ageing at 850 °C, were held at
800 °C for periods of up to 2 130 hours. The results of these
experiments are given in Table 1. The variation of the
mechanical properties was reflected in the structural changes

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